

AMSAT News Service Weekly Bulletins

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AMSAT NEWS SERVICE

ANS-360

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on <http://www.amsat.org> publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to: [ans-editor \[at\] amsat.org](mailto:ans-editor@amsat.org)

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see:
<https://mailman.amsat.org/postorius/lists/ans.amsat.org/>

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ANS-360 AMSAT News Service Weekly Bulletins

To: All RADIO AMATEURS

From: Radio Amateur Satellite Corporation

712 H Street NE, Suite 1653

Washington, DC 20002

DATE 2021 Dec 26

CAMSAT XW-3 (CAS-9) To Be Launched Today

The CAMSAT XW-3 (CAS-9) amateur radio satellite is scheduled to be launched today, 2021-12-26, at 03:11:31 UTC, and will be deployed at 98.858°E and 28.413°S at UTC 03:35:58, a location close to Western Australia.

Radio amateurs will receive CW beacon and GMSK telemetry signals approximately 38 seconds after the satellite is separated from the launch vehicle, and then the linear transponder will be put into use after approximately 49 seconds.

CAMSAT is looking for the CW beacon and telemetry monitoring from Western Australia, South America and North America during the first orbit of the satellite.

A preliminary Two-Line Orbital Element set has been released. However, any launch delay will affect this prediction radically, and radar-confirmed TLEs will probably not be available for several days:

XW-3(CAS-9)

```
1 99999U      21360.14997609  .00000032  00000-0  10363-4 0 00007
2 99999 098.5836 072.3686 0004232 307.2415 261.3002 14.38559758000156
```

CW telemetry beacon:

*Frequency: 435.575MHz

*RF power: 20dBm

*CW rate: 22wpm

GMSK telemetry:

*Frequency: 435.725MHz

*RF power: 23dBm

*Data rate: 4800bps

V/U mode linear transponder:

*Uplink frequency: 145.870MHz

*Downlink frequency: 435.180MHz

*RF power: 20dBm

*Bandwidth: 30kHz

*Spectrum inverted

Preliminary Doppler.SQF file entry:

XW-3(CAS-9),435180,145870,USB,LSB,REV,0,0,V/U_Transponder

A detailed CAS-9 user's manual is available at <https://bit.ly/3EokTw5>

[ANS thanks Alan Kung, BA1DU, for the above information]

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LAST CALL for the 2021 President's Club!

There are only a handful of 2021 coins left and when they are gone, they are gone.

Don't miss this chance to own this one-of-a-kind coin because after January 1 they will no longer be available.

Score your 2" 4-Color Accent Commemorative Coin.

This gold finished coin comes with

Full Color Certificate and Embroidered "Remove Before Flight" Key Tag

Donate today at

<https://www.amsat.org/join-the-amsat-presidents-club/>

You won't want to miss it!

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ARISS SSTV Event Scheduled for Dec 26

An ARISS Slow Scan TV (SSTV) event is scheduled from the International Space Station (ISS). The event is slated to begin on December 26 at 18:25 UTC for setup and operation and continue until December 31 ending at 17:05 UTC. Dates and times subject to change due to ISS operational adjustments.

Images will be downlinked at 145.8 MHz +/- 3 KHz for Doppler shift and the expected SSTV mode of operation is PD 120.

The main theme will be for this event will be lunar exploration. Radio enthusiasts participating in the event can post and view images on the ARISS SSTV Gallery at https://www.spaceflightsoftware.com/ARISS_SSTV/ .

After your image is posted at the gallery, you can acquire a special award

by linking to <https://ariss.pzk.org.pl/sstv/> and follow directions for submitting a digital copy of your received image.

[ANS thanks Dave Jordan, AA4KN, and Gaston Bertels, ON4WF, ARISS Operations Team, for the above information]

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Need new satellite antennas? Purchase Arrows, Alaskan Arrows,
and M2 LEO-Packs from the AMSAT Store. When you purchase through
AMSAT, a portion of the proceeds goes towards
Keeping Amateur Radio in Space.
<https://amsat.org/product-category/hardware/>

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Bob Davis, KF4KSS, AMSAT Engineer, SK

Robert "Bob" Davis, 49, passed away on December 10, 2021 at his home in Pocomoke City, Maryland. Bob became part of the AMSAT Engineering team in 1996 after graduating from the University of Central Florida with a degree in mechanical engineering. He was instrumental in the revision to the satellite structure of the Phase 3D spacecraft, adding his expertise to the mounting system and solar panel deployment system.

Bob was involved with every AMSAT & ARISS project since 1996, including Eagle, Suitsat, ARISSAT and the FOX series of satellites. He helped design, build, test and certify the FOX and next generation and was working on the GOLF satellites. More on Bob's personal life and family can be found at <https://www.serenitymeadows.com/obits>.

The family has requested that, in lieu of flowers, a donation be made to AMSAT at <https://www.amsat.org/donations/kf4kss-memorial/>.

[ANS thanks AMSAT for the above information.]

A0-73 Mode Change Made

FUNCube-1 (A0-73) mode has been changed. It will be in telemetry mode in sunlight and silent during eclipse. This will allow the team to gather valuable telemetry, including energy consumption and battery health in current illumination conditions. This is not an error!

We are grateful for the continued uploading of telemetry data to the Amsat-UK data warehouse, and the continued support of everyone in gathering it!

[ANS thanks Wouter Weggelaar, PA3WEG, FUNCube Operations Team, for the above information]

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AMSAT's GOLF Program is about getting back to higher orbits, and it all begins with GOLF-TEE – a technology demonstrator for deployable solar panels, propulsion, and attitude control, now manifested for launch on NASA's ELaNa 46 mission. Come along for the ride. The journey will be worth it!

<https://tinyurl.com/ANS-GOLF>

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Change Of Operation Schedule of F0-99 / NEXUS

The NEXUS operation team has announced that the operation schedule for F0-99 / NEXUS has been changed. Recently, based on the situation where the operation of other general-purpose transponder satellites has become unstable one after another, we will temporarily operate the F0-99 / NEXUS transponder. The following 3 passes (1st pass on Sunday evening) are usually his schedule for digital talker operation, but we will change the schedule and temporarily operate transponders, so we will inform you.

[ANS thanks JAMSAT for the above information]

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Want to fly the colors on your own grid expedition?
Get your AMSAT car flag and other neat stuff
from our Zazzle store!
25% of the purchase price of each product goes
towards Keeping Amateur Radio in Space
https://www.zazzle.com/amsat_gear

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New release of AMSAT Status for Android

Loren Lang, K7IW, has developed an Android app for publishing status updates to the AMSAT website satellite status page (<https://www.amsat.org/status/>) and pulling down previous reports through the site's published API. Since last year, Loren has fixed a few bugs on different Android platforms and also added a Google Maps view which shows the location of satellite reports on a map. It will also save preferred satellites and has a "find me" button for filling in the grid square automatically. The app is on the Android Play Store in a closed beta.

To join in on the testing, open this link:

<https://play.google.com/apps/testing/org.northwinds.amsatstatus>

And the app can be opened on your phone with this:

<https://play.google.com/store/apps/details?id=org.northwinds.amsatstatus>

Or search for AMSAT Status. Please provide any feedback or feature requests you want on the app.

[ANS thanks Loren Lang, K7IW, for the above information]

ARISS NEWS

Amateurs and others around the world may listen in on contacts between amateurs operating in schools and allowing students to interact with astronauts and cosmonauts aboard the International Space Station. The downlink frequency on which to listen is 145.800 MHz worldwide.

Recent contacts:

Berufliche Schule Direktorat 1 Nürnberg, Nuremberg, Germany, telebridge via ON4ISS

The ISS callsign was OR4ISS, and the crewmember was Matthias Maurer KI5KFH. The contact was successful: Tue 2021-12-21 08:24:05 UTC 81 deg
Congratulation to the Berufliche Schule Direktorat 1 Nürnberg students and Matthias!

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+ A Soyuz spacecraft carrying a Russian cosmonaut and two Japanese private astronauts returned to Earth late Dec. 19. After 11 days on the station, the Soyuz returned to Earth Roscosmos cosmonaut Alexander Misurkin along with Japanese private astronauts Yusaku "MZ" Maezawa and Yozo Hirano. The flight brokered by American space tourism company Space Adventures. (ANS thanks Space News for the above information)

+ The liftoff of a SpaceX cargo ship on the way to the International Space Station early Tuesday was the 31st and final orbital launch from Florida's Space Coast in 2021, setting a new record for the most space missions to depart from the spaceport in a calendar year. It was also the 31st Falcon 9 launch of the year overall for SpaceX, including 28 from Florida and three launches from Vandenberg Space Force Base in California, setting a company record. (ANS thanks Spaceflight Now for the above information)

+ Two new Astro Pi units launched were launched into space on December 21, 2021. The new Astro Pi units each consist of a Raspberry Pi computer with a Raspberry Pi High Quality Camera and a host of sensors, all housed inside a special space-ready case that makes the hardware suitable for the International Space Station (ISS). The launch was the culmination of three years of work Raspberry Pi has done for the European Space Agency to get the new Astro Pi units ready to become part of the European Astro Pi Challenge. The complete story can be found at: <https://bit.ly/3eoUBzi> (ANS thanks the Raspberry Pi Foundation for the above information.)

+ Derek, OK9SGC, has recently uploaded a very comprehensive beginners guide to receiving HRPT weather satellite images. The guide covers almost everything from purchasing and building the hardware, to finding and tracking the satellites, to setting up the software and decoding images. HRPT reception can be a little daunting as it requires a good L-Band dish setup which involves choosing and building a feed, and importantly, a way to track the satellite with the dish as it moves across the sky. Find this story and a link to the guide at: <https://www.rtl-sdr.com/> (ANS thanks rtl-sdr.com for the above information)

+ The WSJT-X development group has announced the release of WSJT-X 2.5.3. Those using FT-4 or other digital modes on linear satellites are reminded that most such operations occur at the low end of downlink passbands, and that transmitter power should be kept to a bare minimum to avoid damage to the satellites. (ANS thanks ARRL and AMSAT for the above information).

+ The James Webb Space Telescope, the "most powerful and complex space telescope ever built," was successfully launched on Christmas Day after having been delayed a first time due to a communication issue between the observatory and the launch vehicle and then again for bad weather. JWST's deployment process involves 50 deployment actions and 344 single-points of failure. As one NASA official said, "Those who are not worried or even terrified about this are not understanding what we are trying to do." (ANS thanks The Orbital Index for the above information)

+ A Merry Christmas to all our readers from the AMSAT News Service staff!

Join AMSAT today at <https://launch.amsat.org/>

In addition to regular membership, AMSAT offers membership to:

- * Societies (a recognized group, clubs or organization).
- * Primary and secondary school students are eligible for membership at one-half the standard yearly rate.
- * Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary

years in this status.

* Memberships are available for annual and lifetime terms.

Contact info [at] amsat.org for additional membership information.

73 and remember to help Keep Amateur Radio in Space!

This week's ANS Editor, Mark Johns, K0JM

k0jm at amsat dot org